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# Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
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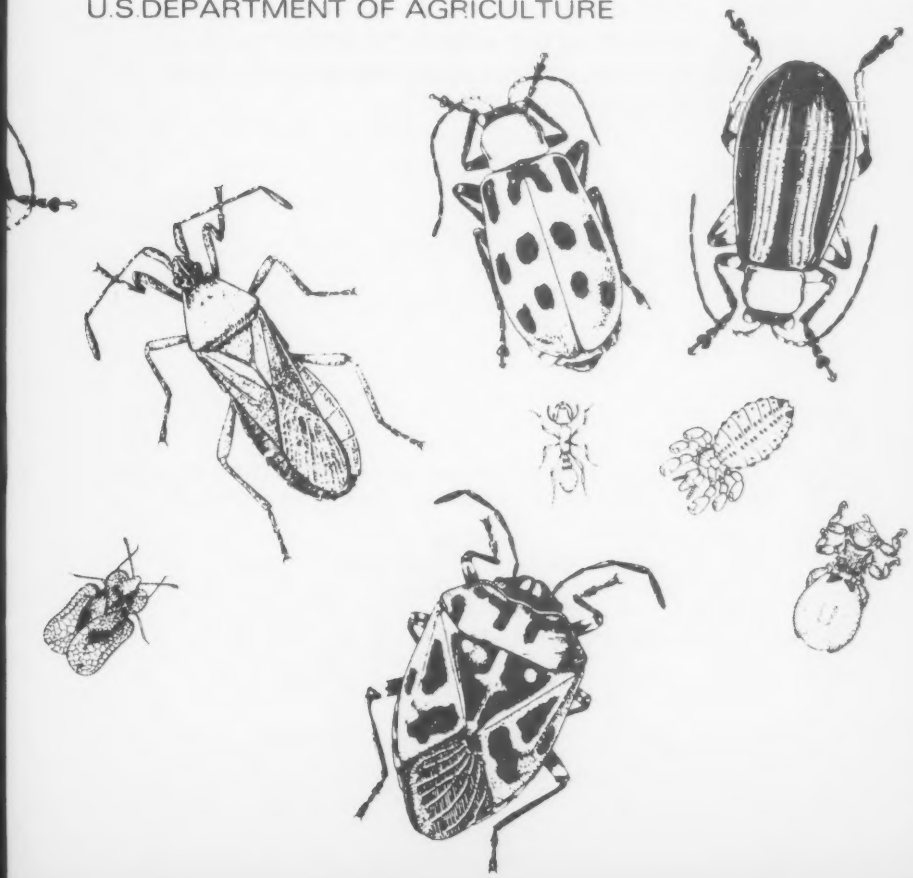

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 25 August 1, 1975 Number 31

# COOPERATIVE ECONOMIC INSECT REPORT

## HIGHLIGHTS

Current Conditions

ARMYWORM populations and damage on corn and small grains reported heavy by nearly all States. (p. 635).

GREENBUG very severe on sorghum in Texas, Oklahoma, Kansas, and Nebraska. Dryness, insecticides, and reinfestations made problems worse in some States. (pp. 636-637).

EUROPEAN CORN BORER infestations on corn heavy in Maryland and Virginia and one of heaviest in Wisconsin. (p. 638).

CORN ROOTWORM root damage severe in Kansas, Nebraska, and Minnesota; larval numbers economic on corn ears in Nebraska and Missouri. (pp. 639-640).

BOLLWORM egg counts on cotton increased in parts of Texas, were heavy in North Carolina, and expected to increase in Alabama. (p. 642).

Detection

New State Records include a SAWFLY in Kentucky (p. 647) and an APHID in Hawaii (p. 650).

For new county records see page 644.

Reports in this issue are for week ending July 25 unless otherwise indicated.

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NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

AUGUST 1975

The National Weather Service's 30-day outlook for August is for temperatures to average below seasonal normals over the South and the southern Great Plains. Above normal temperatures are indicated for the North Atlantic States, and also from the Upper Mississippi Valley westward to the North Pacific Coast and in western portions of the Great Basin and interior California. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed the median amount over the central and southern Plateau Region, the North Pacific Coast, the southern Great Plains, and the eastern third of the Nation except for the central and southern Appalachian Mountains. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

## SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - ALABAMA - This species and Spodoptera frugiperda (fall armyworm) damaged corn in Geneva, Mobile, Houston, Montgomery, Escambia, and Coffey Counties. (Reynolds et al.). NORTH CAROLINA - Treatments applied to 200 acres of pasture in Washington County. (Van Duyn). NEW HAMPSHIRE - Outbreak reported at Epsom, Merrimack County, on hayfields week of July 15. (Bowman). MICHIGAN - Continued to damage small grains, corn, and other crops (peas in one case). Longest, most extensive, and most erratic outbreak ever in State. Losses in oats, corn, barley, and some wheat in scattered fields over entire State. Controls effective. Weed grasses in no-till and conventional-till corn increased severity of infestation in corn and to some extent in small grains. (Ruppel).

WISCONSIN - Armyworm heavier than usual on corn, grains, peas, and alfalfa in northern half of State. Most fields below economic threshold. Damage heaviest in north-central Chippewa County where many fields had nearly all corn infested; all leaves stripped and silk feeding heavy in severe cases. Some clipping of oat heads; growers more concerned over damage to new seeding alfalfa under oats. Up to 25 per square foot in lodged grain fields in Langlade County. Up to 50 per square foot of peas in Lincoln County. Larvae ready to pupate in Eau Claire, Chippewa, Rusk, and Barron Counties. Mostly half-grown larvae on Langlade County oats. Parasitism in Chippewa County on 15-20 percent of larvae, with Winthemia quadripustulata (a tachina fly) greatly outnumbering Apanteles militaris (a braconid wasp). Predaceous ground beetles numerous in infested fields. Armyworm heavy in Trempealeau, Pepin, Polk, Barron, Rusk, Chippewa, Eau Claire, Jackson, Marathon, Lincoln, Shawano, Langlade, Door, Green Lake, and Marinette Counties. (Okla. Coop. Sur.).

MINNESOTA - Armyworm noneconomic but infested most crops in all districts. Larvae economic, 5 or more per square foot, in occasional grain field in Red River Valley; 10 per square foot in 2 fields earlier this period. Most barley still green or just turning color in northwest district. One group of larvae near pupation; other group mostly in second and third instar. Two groups resulted from 2 separate flights, heavier flight coming somewhat later. Treatment most extensive in Becker, Mahnomen, Norman, Polk, Red Lake, Chippewa, Swift, Renville, and Stevens Counties. Sprays applied to 30,000-40,000 acres of grain each in Becker and Chippewa Counties. (Minn. Pest Rpt.).

SOUTH DAKOTA - Armyworm active in Marshall County late-planted grains. (Walgenbach). NORTH DAKOTA - Cut stems and clipped heads of barley and durum wheat in Traill County. Larvae 1-23 per square foot in small grains; largest larvae about half grown. Still hatching. Up to 8 per square foot in Dickey, Sargent, and Richland Counties. (Scholl).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Aster yellows disease in 8 percent of population. Aster yellows infected weeds in most areas, infected 20-30 percent of lettuce field not yet heading at Montello, Marquette County, 15 percent in adjacent carrot field, and 1-5 percent in carrot field at Portage, Columbia County. (Wis. Ins. Sur.).

CORN EARWORM (Heliothis zea) - TEXAS - Still caused problems throughout south-central area. Fed on sorghum heads in Baylor, Dickens, Fisher, and Knox Counties. Damage not excessive. (Cole, Boring). OKLAHOMA - Up to 3 per ear in garden sweet corn checked in Muskogee County. Ranged 1-3 per row foot in Hughes County peanut field. Averaged one per 10 heads in grain sorghum field in Garvin County. (Okla. Coop. Sur.). NEBRASKA - Infested 3-5 (averaged 7) percent of ears in 3 cornfields in Nemaha and Otoe Counties. (Miller). VIRGINIA - Infested 13.7 percent of all ears of field corn in 30 cornfields (750 ears of corn) in Tidewater region. Percent infested ears (compared with percentage for 1974) by area: South of James River 21.2 (10.8), middle Peninsula 17.2 (14.0), Northern Neck 0.3 (1.2). Mostly second and third instars. (Allen). MARYLAND - Flight activity increased slightly on lower shore. Heaviest average of 14 per night at Salisbury, Wicomico County. Tip injury in field corn remained 5 percent on Eastern Shore. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Increased in sorghum at Bonita, Graham County. (Ariz. Coop. Sur.). OKLAHOMA - Ranged 250-500 per sorghum seedling in southwest area. Up to 500 per plant on older sorghum in Beckham County. (Okla. Coop. Sur.). KANSAS - Heavy infestations week ending July 18 currently declined in sorghum whorls in southwest area. (Bell). NEBRASKA - Decreased sharply on sorghum and to some extent on corn in central, east, and eastern portion of southeast districts but still numerous on both crops in northeast and western portion of southeast district. Up to 6,500 per plant on Clay County sorghum. (Raun et al.). NORTH DAKOTA - Up to 300 per corn leaf in Sargent County. (Scholl).

GREENBUG (Schizaphis graminum) - NEVADA - Heavy along with Macrosiphum avenae (English grain aphid) on 120 acres of wheat at Lovelock, Pershing County. Treatments applied. (Martinelli).

TEXAS - Greenbug moderate to heavy in isolated fields of grain sorghum in Pecos and Reeves Counties. Reduced by beneficial insects in Hill and Ellis Counties. Most grain sorghum began to mature. Increased on sorghum in Rolling Plains. Heavy in Dickens and Jones Counties. Some producers applying control measures. Moderate on sorghum in Fisher and Knox Counties. Light throughout Rolling Plains area. Lady beetles and lacewings preyed heavily on greenbugs in some sorghum fields in Jones and Knox Counties. Parasitic wasps deposited eggs on greenbugs in 2 Knox County fields. Greenbugs built up to 2,500 per plant in untreated Hale County fields. Treatments hampered by rainfall and high winds. Greenbugs resistant to most, if not all, registered insecticides. Most sorghum in Hale County treated. Due to control failure, some fields retreated. Beneficial insects too light. (Neeb et al.).

OKLAHOMA - Moderate to heavy on southwest area grain sorghum. Up to 3,000 per plant in boot to bloom fields, up to 750 per plant in preboot fields, and up to 120 per linear foot in very young fields. Spraying underway. Up to 700 per plant on 12 to 15-inch sorghum in Beckham County and up to 120 per plant on 8-inch sorghum. Scattered heavy infestations in Washita and Caddo Counties. Ranged 21-1,500 per plant in irrigated fields in Texas County and 0-500 per plant in dryland fields; still increasing. Up to 80 per plant on 2-foot plants in Hughes County and up to 120 per plant on 2.5-foot plants in Okfuskee County. Scattered and light in Payne and Noble Counties. (Okla. Coop. Sur.).

KANSAS - Greenbug heavy on sorghum in northeast district and in Wabaunsee, Shawnee, Douglas, and Osage Counties. Stand loss heavy in many late sorghum fields in Marshall County. Plant damage severe to late sorghum in Nemaha, Brown, and Jackson Counties. Treatments applied but rapid reinfestation by large flights common. Generally light on sorghum in Stafford County and in western districts. Some threatening infestations on sorghum in Republic County. (Bell).

NEBRASKA - Greenbug increased. Up to 2,775 (averaged 242 per plant) in 214 Clay County fields; 38 percent of 264 fields recommended for treatment. Averaged 300 per sorghum plant in Cedar County. Light to moderate, averaged less than 200 per plant, on sorghum in Perkins, Chase, Dundy, Logan, McPherson, and Frontier Counties. Averages ranged 200-500 per plant in 6 of 13 fields in Lincoln, Red Willow, and Furnas Counties. Averaged 2,330 per plant, lower 4-5 leaves dead, in Nemaha County. Up to 600 per 6 to 7-inch plant of silage sorghum; one-half of field dead. Field averages ranged 25-1,000 per plant in Merrick, Hamilton, Hall, and York Counties; treatment recommended in most heavily infested fields. (Gary et al.). SOUTH DAKOTA - Rapidly built up on grain sorghum. Controls effective. Plant growth nearly stopped due to dryness. (Walgenbach).

MISSOURI - Greenbug infested 4-100 percent of plants in north-central and northwest areas. Ranged from few aphids per plant to moderate colonies on most leaves. Lost 2-6 lower leaves due to feeding and lack of moisture in some late-planted north-central area fields. Parasites and lacewings increased. (Munson). IOWA - Light in one field of replanted, 12-inch tall forage sorghum in Boone County. (Iowa Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - MISSOURI - Continued light to moderate, 26 to 100+ per 10 sweeps, on alfalfa in north-central and northwest areas. (Munson). IOWA - Still present on alfalfa. Cutting and/or treatments reduced damage. (Iowa Ins. Sur.). MINNESOTA - Damage extensive on alfalfa and potatoes. Up to 1,100 per 100 sweeps, 70 percent nymphs, in central district alfalfa field. Volunteer alfalfa in corn often devoid of green color due to feeding of pest. Damaged green beans in gardens at Minneapolis and St. Paul. (Minn. Pest Rpt.).

WISCONSIN - Potato leafhopper and Acyrthosiphon pisum (pea aphid) damaged forage in southwestern district. Potato leafhopper increased statewide, few fields contained over 30 per sweep. Dry, warm conditions promoted rapid development. Up to 6 per sweep on Winnebago County soybeans; numerous on undersides of leaves. Increased in most potato and bean fields; lush potato vine growth prevented deep spray penetration. Up to 5 per sweep with 3-5 nymphs per leaflet near base of potato plant in Adams County field. Up to 4 per sweep in snap bean field in Adams County. Up to 2 per sweep of navy beans in Eau Claire and Trempealeau Counties. Up to 6 nymphs per leaflet in Adams and Trempealeau Counties. Damaged beans and potatoes where control was lax. (Wis. Ins. Sur.).

INDIANA - Potato leafhopper still problem on alfalfa. Averages ranged 1-4 per sweep in northern district; most fields nearing third cutting. (Edwards). OHIO - Averaged 1.2 adults per sweep on unsprayed alfalfa in Pickaway, Ross, and Jackson Counties. Damage moderate but some severe stunting and yellowing. Controls effective; adults averaged 0.2 per sweep. (Lewis). MICHIGAN - Damaged Ingham County alfalfa week ending July 18. Threatening populations in Clinton County beanfields. (Ruppel, Jennings).

TOMATO HORNWORM (Manduca quinquemaculata) - TEXAS - Stripped foliage from tomatoes in gardens in Dickens and Wilbarger Counties. Light to moderate in gardens in El Paso, Culberson, Reeves, Pecos, Ward, and Winkler Counties. (Boring, Neeb).

**CORN, SORGHUM, SUGARCANE**

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Catches of first-generation moths increased heavily in light traps in Shawnee, Stafford, Pawnee, and Kiowa Counties; flights began in Republic and Finney Counties. Fresh eggs on 12 percent of corn in Stafford County field. (Bell). NEBRASKA - Pupae numerous in southeast, east, and central districts; adults emerged. Trace in southwest district. (Miller et al.).

MISSOURI - European corn borer adults active in northwest area during cool weather following rains. Egg masses ranged 3-27 per 100 plants. (Munson). IOWA - Eggs laid by first-generation moths on 3-5 percent of corn in Lee County. (Iowa Ins. Sur.). MINNESOTA - Pupated in southwest district. Very light in all districts with little damage. (Minn. Pest Rpt.).

KENTUCKY - First instars of second-brood European corn borer in McCracken County July 17. (Gregory, Barnett). ILLINOIS - First generation very light in east-central area. (Ill. Ins. Rpt.). WISCONSIN - Second flight began at Mazomanie, Dane County. Pupae encountered from Lafayette County north to Eau Claire and Portage (in potatoes) Counties and east to Dodge and Waukesha Counties. Third to fifth instars reported last 2 periods. Infested over 20 percent of plants in several fields in Door County, heaviest in 15 years of observation. (Wis. Ins. Sur.).

OHIO - First-generation moths emerged. O. nubilalis increasing in blacklight traps in Wayne County. First moth of new generation caught July 17 with captures since then averaging 19.6 moths per night. (Lewis). VIRGINIA - Larvae heavy on field corn, about half of ears in Tidewater region infested with most heavy infestation in Northern Neck region. (Allen). MARYLAND - Blacklight catches continued to average 5-10 per night in Wicomico, Somerset, and Worcester Counties; fewer in other areas. Egg mass counts as high as 30 percent in Wicomico County cornfield. Rapid increase began on lower Eastern Shore. (U. Md., Ent. Dept.). DELAWARE - First-brood larvae in corn 85-percent pupated; adults 20+ per night in blacklight traps in Sussex County. (Burbutis).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - TEXAS - Adults of second generation emerged. (Latham). KANSAS - Some first-generation larvae still on Stafford County corn; pupation 80-85 percent and moth emergence underway; eggs on 0-18 percent of corn, mostly fresh eggs but some "red-bar" stage. Pupation 50-75

percent in Kiowa and Stevens Counties. Southwestern corn borer moths of first generation increasingly heavy in tungsten light trap in Stafford County, 173 moths on July 23. Few moths trapped in Pawnee County. (Bell). TENNESSEE - Damaged Lincoln County corn. (Winsett). KENTUCKY - First adults emerged in Christian County July 16. (Gregory, Barnett).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Continued severe problem of field corn in many northern areas. Up to 6 third to fourth instars per ear on some ears near Hawthorne, Alachua County, July 19; completely destroyed 500 of 800 acres of field corn by July 22 (corn salvaged for silage); grain loss expected in 25-40 percent of remaining 300 acres. Damaged 50-100 percent of ears of late-planted commercial field corn at Hastings, St. Johns County; damage light on early corn but severe on several hundred acres of late-planted corn. Larvae began move into nearby sorghum. Larvae averaged 2-4 per ear in field of late-planted field corn at Newberry, Alachua County; very little damage in early plantings. Larvae averaged 2.5 per ear of field corn on farm in Jackson County. Destroyed 7 acres of field corn (both ears and foliage) at Perry, Taylor County. (Fla. Coop. Sur.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - KANSAS - Eggs trace in one cornfield each in Wichita and Greeley Counties. Fresh to hatching eggs, some young larvae, on trace to 90 percent of corn in southwest Finney County. (Bell). NEBRASKA - Light on southwest district corn; heaviest, up to 5 per 100 plants. Adults increased in light traps in central and east districts. Averaged one egg mass per 3 plants in Chase County field. (Campbell et al.).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - Serious root damage by D. virgifera (western corn rootworm) in untreated Finney County cornfield. Severely damaged roots on 80 percent of corn in Sherman County field. Adults averaged up to 4 per plant in Cheyenne County; many larvae and pupae still on corn in northwest district. Most larvae emerged as adults in southwest district; adults generally light. (Bell). NEBRASKA - Diabrotica spp. adults up to 10 per ear tip in silking and tasseling corn in Merrick, Hall, Hamilton, and York Counties. Adult averages ranged 3-5 per plant in Thurston and Antelope Counties. Root loss 90 percent in low areas of Perkins County field treated at planting. Losses heavy in 4 untreated Brown County fields when watered previous to high winds; feeding light in untreated fields. Adults averaged 2 per plant in 2 Nemaha County fields. Adults, averaged 10+ per plant, clipped silks back to ears; root loss up to 90 percent in low areas of 3 Otoe County fields which received heavy rains shortly after treatment at planting. Problem accentuated by severe distortion of brace roots due to poorly timed treatments. (Witkowski et al.).

MISSOURI - Diabrotica virgifera light to heavy on corn in north-central and northwest areas. Adults ranged 1.5-19.0 per plant. Averages of 8, 11, and 12.5 adults per plant in untreated fields. (Munson). IOWA - Diabrotica spp. adult emergence in Shelby County, up to 5 per plant, 7 to 10 days ahead of 1974. (Iowa Ins. Sur.). MINNESOTA - Diabrotica spp. adult emergence began. Much root damage but very little lodging. Very hard soil crust due to very dry weather supported corn. (Minn. Pest Rpt.).

KENTUCKY - Diabrotica undecimpunctata howardi (southern corn rootworm) adults economic in few areas; noneconomic in most areas. (Barnett). D. virgifera adults ranged 0.5-7.0 per plant in 25 LaPorte County cornfields. Root damage evident in 5 fields. Infestations about same in St. Joseph County. (Ricciardi, Matthew). OHIO - D. longicornis (northern corn rootworm) adults ranged from one per 50 plants in Fairfield County to 1.2 per plant in Pickaway County. (Lewis). MICHIGAN - Most Diabrotica spp. adults emerged. Collection of adults in field near St. Johns, Clinton County, showed 97 D. virgifera, 25 D. longicornis, and one D. undecimpunctata howardi. (Verwey et al.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Very heavy buildup in Hill and Ellis Counties. Above treatment levels in Kaufman, Ellis, and Tarrant Counties. Very heavy, 10-30 per head, in some areas where sorghum still blooming. (Buxkemper et al.).

**TURF, PASTURES, RANGELAND**

BLUEGRASS BILLBUG (Sphenophorus parvulus) - MARYLAND - Damage light to moderate in Queen Annes, Prince Georges, Montgomery, and Howard Counties in 700 acres of bluegrass sod. Larvae 3-6 per square foot; pupation underway. Increased in all central areas, counts heaviest of past 3 years. (U. Md., Ent. Dept.).

GRASS BUGS - UTAH - Labops utahensis very numerous, severely discolored grass areas in Franklin Basin, Cache County. Some additional injury from I. shulli, I. brachycera and lighter infestation of L. hesperius; troublesome in mountain grass areas west of Wales, Sanpete County. (Knowlton et al.).

**FORAGE LEGUMES**

ALFALFA WEEVIL (Hypera postica) - UTAH - Ranged 15-20 per sweep on Cache County alfalfa. (Davis). IDAHO - Counts per 10 sweeps by county: Lincoln 5, Blaine 5 and 8, Gooding 2, Jefferson 2, Butte 3 and 4, Teton 10, Booneville 10, Fremont 3, and Caribou 1, 32, and 60. (Brusven).

PEA APHID (Acyrthosiphon pisum) - NEVADA - Over 2,500 acres of hay alfalfa at Lovelock, Pershing County, treated for up to 1,000 aphids per sweep. Many seed alfalfa fields treated for up to 500 aphids per sweep. Numbers currently decreased; lady beetles averaged 25 larvae and 5 adults per sweep and aphids 5 per sweep in one untreated field. Buildup not so rapid as previously in treated fields. Generally lighter in south end of valley and higher in central and north end. (Munk). Up to 10 per sweep on hay alfalfa at Fernley and Dayton, Lyon County, and at Wadsworth, Washoe County; one 20-acre field at Dayton averaged 50 per sweep. (Barclay, Bechtel). Acyrthosiphon sp., caraganae group, and pea aphid in equal numbers, ranged 15-750+ per sweep on untreated hay alfalfa at Swingle Bench, Churchill County. Numbers constant within fields but varied greatly between fields. Field with 750+ aphids per sweep had averages of 14 lady beetle larvae and 5 adults per sweep, mostly Coccinella transversoguttata richardsoni and Hippodamia convergens (convergent lady beetle). (Barclay, Bechtel).

IDAHO - Pea aphids per 10 sweeps by county: Lincoln 4, Blaine 2, Gooding 6, Butte 6 and 7, Teton 4, Madison 1, Bonneville 100, Fremont 14 and 16, and Caribou 2, 3, and 4. (Sandvol). WISCONSIN - Heaviest in Grant, Crawford, Green Lake, Trempealeau, and Dodge Counties. Moderate, under 50 per sweep, in other areas. Damage heavy; some treatments made. These areas fairly dry. Reproduction rapid due to lower ratio of parasites to aphids and current weather. (Wis. Ins. Sur.).

LYGUS BUGS (Lygus spp.) - NEVADA - Increased rapidly on seed alfal at Orovada, Humboldt County. Averaged 3-4 adults and 10-20 nymphs per sweep. Treatments applied. Rapid buildup on seed alfalfa at Lovelock, Pershing County. Highest counts averaged 30 adults and nymphs per sweep. Predators lightest in moist areas. Big-eyed bugs and damsel bugs numerous. (Lauderdale et al.).

**SOYBEANS**

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Second-generation adults continued to emerge, heavy rains slowed development on soybeans. Recovery not expected for 10 days or more. New feeding injury on Eastern Shore and southern area less than 5 percent over injury levels of 14 days ago. (U. Md., Ent. Dept.). INDIANA - Eggs laid past 10 days in Lawrence County. About 500,000+ eggs per acre in heavily infested field. (Anderson).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Averaged one per 3 row feet of soybeans in most eastern counties but up to 8 per 3 row feet in Wagoner County. (Okla. Coop. Sur.). MISSOURI - Larvae 1-6 (averaged 3) per foot of row in soybean field in southeast area. (Thomas). ILLINOIS - Up to one per row foot on northeast district soybeans. (Ill. Ins. Rpt.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ALABAMA - Earlier nymphal damage caused soybean lodging in Marengo, Geneva, and other southern counties. (Yates et al.). OKLAHOMA - Continued generally light on eastern area soybeans. Up to 10 percent damaged plants in few McCurtain County fields. (Okla. Coop. Sur.).

**PEANUTS**

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Comprised 95 percent of species which defoliated 40 percent of peanut acreage in planting of 1,200 acres in Jackson County. Peak apparently reached. More of problem on peanuts this year than in previous years. (Fla. Coop. Sur.).

**COTTON**

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Square damage light, 0-10 percent, in older fields throughout Rolling Plains; moderate, 11-20 percent, on older cotton in Fisher, Hall, and Jones Counties; and heavy, 21-60 percent in several older fields in Knox and Wilbarger Counties. Infestations in Robertson County. Trap catches increased in Lower Rio Grande Valley area. Several traps had 10 or more adults per trap last 2 weeks; weevils may be leaving these fields. Up to 6 adults in a bloom common in several fields in Cameron and Hidalgo Counties. Continued .o

hatch in north-central area. Some larvae dying in squares exposed to sun but enough squares dropped in shade to give numbers that can damage cotton. Applying boll weevil control now will bring on bollworm outbreak. Continued to increase near overwintering weevil areas. Light in Hill and Ellis Counties. (Boring et al.).

OKLAHOMA - Four boll weevil adults caught in 124 pheromone traps in Jackson County. Punctured squares ranged 2-48 percent, mostly between 20 and 30 percent, in Jackson, Harmon, Greer, and Tillman Counties and ranged 10-45 percent, mostly between 10 and 15 percent, in Kiowa County. Counts up to 38 percent in Muskogee County. (Okla. Coop. Sur.). LOUISIANA - Damage increased, mostly in "hot spots" week of July 18. (Tynes). ALABAMA - First-generation emergence still heavy and damaging statewide. Control efforts general. (McQueen). TENNESSEE - First-generation emergence heavy in southwestern tier of counties. Recent heavy rains favored increase. Counts range 14-92 percent punctured squares. Well above control levels in treated and untreated fields. Large first generation required controls. Punctured 10-50 percent of squares in central counties. (Locke, Cagle).

BOLLWORMS (Heliothis spp.) - TEXAS - H. zea (bollworm) increased in light traps. Eggs very heavy in most fields throughout Hill and Ellis Counties. Eggs on late-planted cotton with young, tender growth. Adults increased to very high numbers in north-central area. Large increase in eggs and small larvae expected this coming period. Beneficial insects increased in untreated fields this past period and expected to help control infestations. By midweek, eggs increased to over 100 per 100 terminals in many cotton fields in Hidalgo County. Egg counts increased heavily in all cotton areas in valley. Larvae began to increase in Hidalgo and Cameron Counties by weekend. Hard to control in Ft. Bend, Brazos, and Robertson Counties. Light to moderate in Glasscock, Midland, Martin, Reeves, Pecos, and Culberson Counties. (Bagley et al.).

OKLAHOMA - H. zea eggs 1-43 and larvae 0-26 per 100 cotton terminals in Jackson, Harmon, Greer, and Tillman Counties; damaged squares ranged 1-14 percent. Averaged 3,000 larvae and 16,000 eggs per acre in Jackson County field. Damaged squares ranged 6-12 percent in Muskogee County. Catch of 32 H. virescens (tobacco budworm) adults in 10 pheromone traps in Jackson County. (Okla. Coop. Sur.). LOUISIANA - H. zea and H. virescens began egg laying week of July 18. Eggs and larvae in several areas. Most damage not economic. (Tynes). ALABAMA - Moth flights light except in southwest area. H. virescens predominant in Marengo County; eggs ranged 5-16 per 100 terminals. Adults of both species expected to increase significantly next 10-15 days with H. zea predominant in most areas. (Yates et al.).

TENNESSEE - Some H. zea infestations well above control levels, increased over last week. Heavy infestations spotty. (Locke). NORTH CAROLINA - H. zea egg laying increased in many Scotland County fields. Heavy egg laying (50+ percent of terminals with eggs) concentrated in southern cotton counties. Light in Halifax and Northampton Counties. Egg counts expected to increase next 7 days in northern counties. (McCloud et al.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Light to moderate on cotton in Midland, Glasscock, Martin, Pecos, Reeves, and El Paso Counties. Ranged 5-30 per 100 plant terminals in isolated fields. Moderate, 8-20 per 100 terminals, in Childress, Fisher, Hall, Jones, Kent, Knox, Wichita, and Wilbarger Counties. Continued to infest late-planted cotton in north-central area. Continued to damage cotton planted in June in Hill and Ellis Counties. Up to 2-3 young fleahoppers in every terminal in some fields. Continued to increase throughout Trans-Pecos area. Damage economic.(Neeb et al.). OKLAHOMA - Ranged 0-28 per 100 terminals in southwest counties and up to 38 per 100 terminals in Muskogee County. (Okla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - TEXAS - Moderate to heavy in isolated fields in Pecos and Reeves Counties. Continued to increase throughout Trans-Pecos area. Damage economic in some fields. (Neeb, Bagley).

COTTON APHID (Aphis gossypii) - OKLAHOMA - Heavy in spots in some cotton in Caddo and Washita Counties. (Okla. Coop. Sur.).

**MISCELLANEOUS FIELD CROPS**

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Heavy on sunflowers in Dickens and Kent Counties. Larvae light in treated fields. Light to moderate in isolated fields in Reeves, Pecos, Glasscock, and Midland Counties. Remained light in Hale County. (Bagley et al.). OKLAHOMA - Continued to lay eggs in sunflower fields beginning to bloom in Harmon County. (Okla. Coop. Sur.).

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Began to emerge in Wilbarger County. Adults 300-500 per night in traps at Lockett during weekend, increase of 300 percent over last period. (Boring). OKLAHOMA - Light trap counts for week by county: Tillman 763, Greer 234, and Jackson 1. (Okla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - TEXAS - Heavy in isolated fields of sunflowers in Reeves County. Nymphs heavy in Reeves and Pecos County fields. (Neeb, Bagley).

**POTATOES, TOMATOES, PEPPERS**

VARIEGATED CUTWORM (Peridroma saucia) - OHIO - Damaged tomato fruits in gardens at Wooster, Wayne County. (Rings). INDIANA - Late instars ranged 15-20 per row foot on St. Joseph County potatoes. (York). WISCONSIN - Increased on potatoes. Larvae up to half grown in scattered spots in one potato field each in Portage, Langlade, and Adams Counties. Leaf feeding will be most apparent in next 14 days.(Wis.Ins. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - ALABAMA - Pupation and adult emergence on 95-100 percent of all potato stalks on 8,000 acres in DeKalb and Jackson Counties. Harvest underway. (Smith et al.).

**BEANS AND PEAS**

MEXICAN BEAN BEETLE (Epilachna varivestis) - UTAH - Skeletonized bean foliage at Logan, Cache County. (Thornley). MICHIGAN - Larvae light on Mecosta County beans week ending July 18. (Howard, Ruppel). WEST VIRGINIA - Larvae and adults damaged 25 percent of green beans in Kanawha County gardens. (Hacker).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata undecimpunctata) - OREGON - Adults 4-25 (averaged 6.8) per 25 sweeps on 250 acres of bush snap beans in Washington County near Hillsboro and Cornelius. (Collins).

GREEN CLOVERWORM (Plathypena scabra) - NORTH DAKOTA - Shotholing on pinto beans in Traill County. Damaged less than 5 percent of total leaf surface. (Gienger).

**CUCURBITS**

SQUASH BUG (Anasa tristis) - TEXAS - Moderate to heavy throughout Trans-Pecos area. Squash damage continued in gardens in Dickens, Wichita, and Young Counties. Damaged cucumbers in gardens in Dickens County. (Neeb, Boring). OKLAHOMA - Heavy on Tillman County pumpkins. (Okla. Coop. Sur.).

**DETECTION**

New State Records - A SAWFLY (Xiphydria maculata) - KENTUCKY - Fayette County. (p. 647). AN APHID (Dactynotus sonchi) - HAWAII - Oahu Island. (p. 650).

New County Records - GRAPE FLEA BEETLE (Altica chalybea) WEST VIRGINIA - Mineral (p. 645). A WEEVIL (Thylacites incanus) PENNSYLVANIA - Chester (p. 646). CAMPHOR SCALE (Pseudaonidia duplex) FLORIDA - Clay (p. 647). FACE FLY (Musca autumnalis) TENNESSEE - Dyer (p. 647). BROWN RECLUSE SPIDER (Loxosceles reclusa) KENTUCKY - Washington (p. 648). A MYMARID WASP (Anaphes flavipes) MICHIGAN - Mecosta, NEW YORK - Seneca. (p. 648). A CHALCID WASP (Brachymeria ovata) WEST VIRGINIA - Kanawha (p. 649). CEREAL LEAF BEETLE (Oulema melanopus) NEW JERSEY - Sussex. NEW YORK - Albany. WISCONSIN - Kenosha. (p. 649). JAPANESE BEETLE (Popillia japonica) INDIANA - Franklin (p. 650).

**CORRECTIONS**

CEIR 25(28):581 - "NORTHERN FOWL MITE (Ornithonyssus silviarum) ..." should read "NORTHERN FOWL MITE (Ornithonyssus sylviarum) ..."

CEIR 25(23):464 - MISCELLANEOUS FIELD CROPS - "AN OLETHREUTID MOTH (Suleima heliathana) ..." should read "AN OLETHREUTID MOTH (Suleima helianthana) ..."

CEIR 25(6):41 - DETECTION - New State Records - "AN ANTHOCORID BUG (Paratriphleps laevisculus) ..." should read "AN ANTHOCORID BUG (Paratriphleps laeviusculus) ..."

**DECIDUOUS FRUITS AND NUTS**

CODLING MOTH (Laspeyresia pomonella) - CALIFORNIA - Control treatments applied to walnut orchards. (Cal. Coop. Rpt.). WASHINGTON - Second-brood flights increased July 16-18 in Chelan, Okanogan, and Douglas Counties. Pheromone trap catches in north-central area week ending July 19 mostly ranged 0-15 with up to 71 at East Wenatchee, Chelan County. (Rushmore). Pheromone trap catches currently ranged 0-36 at Yakima, Yakima County. (Hudson, Johnson). IDAHO - Male catches in Moscow, Latah County, pheromone trap July 17-23 were 4, 1, 1, 7, 1, 3, and 7. (Portman). OHIO - Damaged 2-30 (averaged 11.6) percent of apples on unsprayed trees in Fairfield County July 16. (Sheppard). MICHIGAN - Second-generation moths emerged in southwest area and Grand Rapids. Egg laying began in Grand Rapids. (Ried, Olsen).

FRUITTREE LEAFROLLER (Archips argyrospilus) - IDAHO - Adults very numerous at Moscow, Latah County, last 14 days. (Portman).

LESSER PEACHTREE BORER (Synanthedon pictipes) - GEORGIA - Males very heavy in pheromone traps in Peach County week of July 18. (Gentry).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Catch heavier than last period. Trap results by county: Hennepin 111, Brown 15 and 33, and Faribault 6. (Minn. Pest Rpt.).

WALNUT SCALE (Quadraspidiotus juglansregiae) - CALIFORNIA - Medium to heavy on ornamental plum trees at El Cajon, San Diego County. Moved onto ornamental shade trees and caused damage in some locations. (Cal. Coop. Rpt.).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - NEW MEXICO - Adults emerged in Carlsbad, Eddy County. Egg laying expected. Infested zero to about 11 percent of clusters. Light crop may retain populations in most areas. (N.M. Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Control treatments applied to walnut orchards. (Cal. Coop. Rpt.).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Heavy on pecan trees in several southwest counties. (Okla. Coop. Sur.).

**SMALL FRUITS**

GRAPE FLEA BEETLE (Altica chalybea) - WEST VIRGINIA - Larval damage light to moderate on wild grapes at Keyser, Mineral County. Collected by D. Eskridge June 23, 1975. Determined by A.E. Cole. This is a new county record. (Miller).

**ORNAMENTALS**

BAGWORM (Thyridopteryx ephemeraeformis) - TEXAS - Heavy infestations damaged shrubs in Young and Wichita Counties. (Boring). OKLAHOMA - Began to pupate in Payne County area. (Okla. Coop. Sur.).

AN ARMORED SCALE (Diaspis boisduvalii) - FLORIDA - Larvae and adults heavily infested leaves on 10 percent of 1,800 Cattleya sp. orchids at residence in Gainesville, Alachua County. (Lieberman).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OHIO - Heavy on 5,000 potted cotoneaster plants in Lake County nursery planting. (Endebrock, Wells).

SPRUCE SPIDER MITE (Oligonychus ununguis) - IDAHO - Heavy: damaged ornamentals at Moscow, Latah County. (Portman).

**FOREST AND SHADE TREES**

A PYRALID BORER (Euzophera ostricolorella) - TENNESSEE - Heavily damaged yellow poplar trees in east and central areas. Damage in central area greatly increased over 1974. (Gordon).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OHIO - Infested 75 percent of trees one to 5 years old in 10-acre Christmas tree plantation in Lawrence County. Destroyed nearly all growing terminals on infested trees; new growth beginning to form around damaged tips. (Miller).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - NEBRASKA - Severely damaged Christmas trees in Holt County. (Witkowski).

SPRUCE BUDWORM (Choristoneura fumiferana) - WISCONSIN - Egg masses hatched in Oneida County July 22. Many egg masses blackened, apparently due to parasitism. Moth emergence nearly completed. (Wis. Ins. Sur.).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - OHIO - Second-generation larvae on Mugho pine in Warren County nursery July 22, somewhat earlier than usual and may result in partial third generation in southern area. (Powell).

A WEEVIL (Thylacites incanus) - PENNSYLVANIA - Several adults collected from Scotch pine in Longwood Gardens at Exton, Chester County, by A.G. Wheeler August 20, 1974. Determined by R.E. Warner. This is a new State record. (PPQ).

FALL WEBWORM (Hyphantria cunea) - OHIO - Webs 1-6 (averaged 3.1) per tree on 9 wild cherry trees in Ross County. Twelve webs on 16 wild cherry trees in Franklin County. Webs 0-4 (averaged 0.75) per tree. Mostly second and third instars. Webs in extreme northern area in Lake County. (Purrington).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Damage moderate to heavy on Chinese elms in Kent, Wilbarger, and Young Counties. Large numbers of pupae scattered through rough bark on trunk and around base of Chinese elms in Wilbarger County. Infested shade trees throughout Trans-Pecos area. (Boring, Neeb). WASHINGTON - Heavy on elms at Ellensburg, Kittitas County, and Colfax, Whitman County. (Kropf, Luce). NEW HAMPSHIRE - Heavily damaged elms at Nashua, Hillsborough County. Migrating to base of trees for pupation week ending July 18. (Bowman).

LOCUST LEAFMINER (Xenochalepus dorsalis) - OHIO - Severely defoliated black locust trees in south-central area. Nearly all black locust trees entirely defoliated and brown. Adults ranged 5-15 (averaged 8.9) per leaf in Tar Hollow State Park in Ross County. (Lewis, Gordon).

A SAWFLY (Caliroa lineata) - WEST VIRGINIA - Larvae damaged 80-100 percent of all oaks in following counties: Summers 24,909 acres, Mercer 300 acres, McDowell 15,569 acres, and Greenbrier 10,587 acres. (Miller).

A SAWFLY (Xiphydria maculata) - KENTUCKY - Adults collected on sugar maple in Fayette County by C. Moore May 11, 1975. Determined by K. Yeargan; Confirmed by P.H. Freytag. This is a new State record. (Barnett).

CAMPHOR SCALE (Pseudaonidia duplex) - FLORIDA - Eggs and adults infested 80 percent of 10 Lagerstroemia indica (crapemyrtle) plants in nursery at Green Cove Springs, Clay County. Collected by C.B. Lieberman July 3, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

PACIFIC SPIDER MITE (Tetranychus pacificus) - CALIFORNIA - General and severe on street elms in several areas of Sacramento, Sacramento County. Leaf drop heavy. Problem possibly due to controls for Pyrrhalta luteola (elm leaf beetle). (Cal. Coop. Rpt.).

**MAN AND ANIMALS**

SCREWWORM (Cochliomyia hominivorax) - Total of 306 cases reported from continental U.S. July 13-19 as follows: Texas 294, New Haven 4, Arizona 8. Total of 219 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 130 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 139,116,000 as follows: Texas 129,972,000; New Mexico 2,379,600; Arizona 6,764,000. Total of 17,893,000 sterile flies released within Barrier of Mexico and 2,000,000 released south of Barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - FLORIDA - Increased, averaged 600 per beef animal in untreated herd near Gainesville, Alachua County. (Fla. Coop. Sur.). KENTUCKY - Adults averaged 40 per animal on Fayette County cattle. (Herald). INDIANA - Counts of 150 per head on cattle on experimental farm im Tippecanoe County. (Dobson). NEBRASKA - Unchanged, averaged 500+ on untreated cattle in southwest district. (Campbell). OKLAHOMA - Averaged 200 per head on Payne County cattle; moderate in Craig County. (Okla. Coop. Sur.). TEXAS - Light to moderate on cattle in Upton, Midland, Glasscock, Reagan, Andrews, and Winkler Counties. Heavy on cattle in Knox and Young Counties. Moderate in Shackelford County. (Neeb, Boring).

FACE FLY (Musca autumnalis) - TENNSESSEE - Averages ranged 8-10 per head on Dyer County cattle July 19, 1975. Collected and determined by B.G. Stafford. This is a new county record. (Gordon). KENTUCKY - Adult averages per head of cattle by county: Hardin 28.6, Woodford 3.3, Fayette 15. (Barnett). INDIANA - Counts of 15 per face on cattle on experimental farm in Tippecanoe County. (Dobson). NEBRASKA - Averaged 20 per animal in southwest district. (Campbell).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged less than one per head on Payne County dairy cattle. (Okla. Coop. Sur.). NEBRASKA - Averaged 20 per leg on cattle in untreated lots in southwest district. (Campbell).

TABANID FLIES (Tabanus spp.) - OKLAHOMA - T. lineola (striped horse fly) and T. atratus (black horse fly) up to 8 per head on some Payne County cattle. (Okla. Coop. Sur.). UTAH - Tabanid flies annoyed horses at Snowville and Fielding, Box Elder County. T. punctifer active in Salt Lake City Airport area, Salt Lake County; horseflies and deer flies troublesome to cattle at Richmond, Cache County. (Thornley et al.).

MOSQUITOES - ALABAMA - Heavy and annoying people at Margargel Community, Monroe County. Populations very heavy throughout State largely due to excessive rains this year. (Lemons) et al.). MINNESOTA - Declined at Minneapolis and St. Paul week ending July 10. Aedes vexans, Coquillettidia perturbans, and A. sticticus dominant. A. vexans predominant in daytime and evening bite collections. Aedes larvae very few. Some increase in Culex tarsalis in this area. C. tarsalis heavy at Fargo and Moorhead in areas previously flooded. No encephalitis cases reported nor is encephalitis virus known to be in mosquito population. (Minn. Pest Rpt.). NEW MEXICO - C. tarsalis larvae averaged 2.1 per dipper at Mesquite, Dona Ana County. (N.M. Coop. Rpt.).

BROWN RECLUSE SPIDER (Loxosceles reclusa) - KENTUCKY - Collected from Washington County residence by R. Greenwell July 23, 1975. Determined by R. Scheibner; confirmed by D.E. Barnett. This is a new county record. (Barnett).

**BENEFICIAL INSECTS**

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Parasitism of Schizaphis graminum (greenbug) on sorghum light, 1-3 percent, in several southwest counties. Few mummies in Payne County field and in 3 Beckham County fields. (Okla. Coop. Sur.). KANSAS - Good control of greenbug in Atchison County sorghum field. Parasitism none or light in greenbug-infested sorghum checked in Kansas. (Bell). NEBRASKA - Parasitism of greenbug ranged less than one percent to 4 percent on sorghum in east, southeast, and central districts. (Raun et al.).

A MYMARID WASP (Anaphes flavipes) - This parasitoid recovered from Oulema melanopus (cereal leaf beetle) eggs as follows: MICHIGAN - Altena Township, Mecosta County, June 17 by D. Loree. Determined by P.R. DeWitt. NEW YORK - Fayetteville, Seneca County, June 16 by T. Crowe. Determined by R.D. Gaines. These are new county records. (PPQ).

GYPSY MOTH PARASITES - WEST VIRGINIA - These parasites of Porthetria dispar (gypsy moth) released in effort to establish on native hosts. Total released to date by county: Hampshire - Brachymeria intermedia (a chalcid wasp) 32,405, Pimpla sp. (an ichneumonid wasp) 946, P. turionellae 455, P. instigator 112, Apanteles liparidis (a braconid wasp) 641, A. porthetriae 250, Meteorus pulchricornis (a braconid wasp) 188, and Palexorista inconspicua (a tachina fly) 153; Hardy - B. intermedia 20,502, Pimpla sp. 550, Pimpla turionellae 200, A. liparidis 1,000, A. porthetriae 244, M. pulchricornis 222, and Palexorista inconspicua 188; Grant - B. intermedia 2,000. (Coffman).

A CHALCID WASP (Brachymeria ovata) - WEST VIRGINIA - Three females recovered from Galleria mellonella (greater wax moth) pupae-baited parasite traps in Kanawha County July 10, 1975. Collected and determined by C.C. Coffman. This is a new county record. (Coffman).

GREEN LACEWINGS (Chrysopa spp.) - OKLAHOMA - Heavy, one per plant in some sorghum fields in southwest counties. Eggs heavy in untreated fields. Heavy on Harmon County sunflowers. Numerous on Payne County sorghum. Light on Sequoyah County soybeans. (Okla. Coop. Sur.).

A CINNABAR MOTH (Tyria jacobaeae) - OREGON - About 288,000 late instars from established colonies in Coos and Linn Counties collected and redistributed to western areas infested with tansy ragwort. (Isaacson).

**FEDERAL AND STATE PLANT PROTECTION PROGRAMS**

CEREAL LEAF BEETLE (Oulema melanopus) - Larvae taken on oats as follows: NEW JERSEY - Stillwater Township, Sussex County, June 20, 1975, by R.J. Balaam. NEW YORK - Bethlehem, Albany County, June 23, 1975, by R. Spaide. Determined by R.F. White. WISCONSIN - See CEIR 25(30):626. Newmunster, Kenosha County, June 19, 1975, by D. Hessner and M. Conrad. Determined by D.L. Hayner. These are new county records. (PPQ).

EUROPEAN CHAFER (Amphimallon majalis) - OHIO - Two positive finds detected in Cuyahoga County, some distance from regulated area on east side of Cleveland. One find very heavy, with 100+ adults collected in single bait trap. (Roach).

GRASSHOPPERS - OKLAHOMA - Damaged margins of cotton fields in several southwest counties. Damage heavy on heads and leaves of grain sorghum in margins of Beckham County field; mostly caused by Melanoplus differentialis. (Okla. Coop. Sur.). NEBRASKA - Complex of Melanoplus femurrubrum, M. differentialis, and M. bivittatus moved out of maturing pastures and roadsides into corn in central district. Up to 15 per square yard in some fields. Melanoplus spp. moved out of roadside into alfalfa field in Nemaha County. Averaged 1,200 per 100 sweeps in margin bordering road and 800 per 100 sweeps in field; Completely defoliated 30 feet of margin. (Raun, Miller). NORTH DAKOTA - Grasshoppers destroyed 4 sections of Federal pastureland (crested wheatgrass) in Slope County. Melanoplus sanguinipes mostly fifth instars and adults, averaged 40 per square yard. M. sanguinipes and M. bivittatus dominant in all counties below. Margin counts from less than one up to 12 (averaged 4) per square yard in Sargent County; mostly fourth instars to adults. Margin and field counts ranged less than one up to 12 (averaged 3) per square yard in Dickey County; mostly fourth instars to adults. Field and margin counts averaged less than one in Traill and Richland Counties; mostly fourth instars to adults. (Brandvik, Scholl). IDAHO - Fourth and fifth instars of M. indigens one per square yard on grassy ridge at 5,100 feet at South Fork Salmon River, Valley County. (Brusven).

GYPSY MOTH (Porthetria dispar) - NORTH CAROLINA - Six males taken in sexlure traps. One from Gates County July 8 (first time adult male trapped in county) and 4 from Duck area of Dare County July 18. Remaining collection from truck stop at Charlotte, Mecklinburg County. (Singletary).

JAPANESE BEETLE (Popillia japonica) - TENNESSEE - Damaged variety of trees and truck crops in upper east area. (Hammett). MARYLAND - Above normal rainfall past 20 days favored survival in central area home lawns and commercial turf. Adults active in almost all areas and egg laying continued. (U. Md., Ent. Dept.). INDIANA - Collected in Japanese beetle trap at Cedar Grove, Franklin County, by J. Kingdon July 9, 1975. Determined by R.D. Gordon. This is a new county record. (PPQ). Adults averaged less than one per plant (ranged 1-5 per infested plant) on outer 4 rows of corn in Starke County field treated 2 days earlier. (Matthew).

MORMON CRICKET (Anabrus simplex) - NEVADA - Total of 22,000 acres of rangeland treated in Pony Creek area, Sulphur Spring Range, Elko County. (Kail). IDAHO - Spotted populations damaged several hundred acres near Rockland and Arbon Valleys, Power County. Some migration into cropland. Locally heavy on range in Bennet Mt. area, Elmore County. (Schow, Edwards).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Catches in traps in Reeves and Pecos Counties decreased during past week. (Neeb).

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## HAWAII INSECT REPORT

New State Record - Apterous adults and nymphs of an APHID (Dactynotus sonchi) infested many Sonchus oleraceus (annual sowthistle) plants at Hickam Air Force Base, Honolulu, Oahu, during survey conducted May 30, 1975. More than 100 specimens collected by R. Mau. First record of Dactynotus sp. in State. Determined by M.B. Stoetzel; confirmed by L.M. Russell. (Sanidad, Mau).

General Vegetables - CABBAGE LOOPER (Trichoplusia ni) and CABBAGE APHID (Brevicoryne brassicae) light in 5 acres of head cabbage at Kula, Maui. About 40-50 percent of mature heads damaged by T. ni; 30-40 percent of B. brassicae parasitized. DIAMONDBACK MOTH (Plutella xylostella) infestations and damage light in 5 acres of head cabbage and 3 acres of cauliflower at Kula. Larvae and pupae in cabbage planting and only larvae in cauliflower. (Miyahira).

Beneficial Insects - First recovery of an ENCYRTID WASP (Ooencyrtus erionotae), egg parasite of Erionota thrax (banana skipper) made July 11, 1975, on Wainaku, Hawaii Island. Of 24 egg clusters, 66.6 percent noted with at least one egg parasitized. Parasitized 46 percent of 71 eggs collected. Parasite established at Wainaku for 3 months. Larvae of a PTEROPHORID MOTH (Oidaematophorus sp.) found July 9 for first time on second site at North Kona (1,500-foot elevation). Defoliation clearly visible in lush growth. Eggs and larvae easily found and many adults flushed during survey. (Matayoshi).

## LIGHT TRAP COLLECTIONS

| | Temperature °F | Precipitation (inches) | Type of trap (BL = Blacklight, I = Incandescent, MV = Mercury vapor, O = other) | Agrotis ipsilon (black cutworm) | Estigmene acrea (salt marsh caterpillar) | Faeda maxillaris (gray cutworm) | Feltia subterranea (granulate cutworm) | Heliothis virescens (tobacco budworm) | Lacanobia oleracea (tomato fruitworm) | Loxostege commixtalis (garden webworm) | Loxostege sticticalis (beet webworm) | Melanchra picta (tomato hornworm) | Ostrinia nubilalis (European corn borer) | Peridroma saucia (variegated cutworm) | Pseudaletia unipuncta (armyworm) | Spodoptera exigua (beet armyworm) | Spodoptera frugiperda (fall armyworm) | Trichoplusia ni (cabbage looper) | Crops |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARIZONA | | | | | | | | | | | | | | | | | | | |
| Mesa 6/23-7/6, 14-16 | | | BL | 165 | 2 | 626 | | | | | | 3 | | 131 | | 424 | | 23 | 28 | |
| CALIFORNIA | | | | | | | | | | | | | | | | | | | |
| Bellota 7/16 | 62-72 | 0 | BL | 6 | | | | | | | | | | | 32 | 2 | | | | |
| Clements 7/15 | 62-86 | Trace | BL | 9 | | | | | | | | | | 2 | 81 | | | | | |
| COLORADO | | | | | | | | | | | | | | | | | | | |
| Denver 7/14-21 | | | BL | 1 | | 6 | | | 1300 | | 25 | | | | | | | | | |
| FLORIDA | | | | | | | | | | | | | | | | | | | |
| Gainesville 7/18-24 | | | BL | | 3 | | 1 | | 1 | | | | | | | 2 | 2 | 1 | | |
| INDIANA (Counties) | | | | | | | | | | | | | | | | | | | |
| LaPorte 7/12-18 | | | BL | 1 | | | | | | | | 2 | 8 | 18 | 41 | | | | 1 | |
| Tippecanoe 7/12-18 | | | BL | 25 | | | | | | | | | 8 | 25 | 54 | | | | 2 | |
| KANSAS | | | | | | | | | | | | | | | | | | | |
| Garden City 7/21,23 | | | BL | 1 | | | 4 | | 2 | | | | 2 | 8 | 1 | | | 1 | | |
| Rossville 7/22 | | | BL | 20 | | | | | 40 | | | | 130 | 12 | 8 | | 6 | 20 | | |
| KENTUCKY (Counties) | | | | | | | | | | | | | | | | | | | |
| Caldwell 7/21-22 | | | BL | 10 | | | | | | | | 1 | | 5 | | | | | | |
| Fayette 7/23-25 | | | BL | 3 | | | | 3 | | | | 1 | | 2 | 10 | | | 5 | | |
| MICHIGAN (Counties) | | | | | | | | | | | | | | | | | | | |
| Lenawee 7/15-21 | | | BL | 77 | | | | | | | 2 | | | 109 | 108 | | | 3 | 2 | |
| Oceana 7/15-21 | | | BL | 117 | | | | | | | 10 | | | 152 | 171 | | | 8 | 4 | |
| MINNESOTA | | | | | | | | | | | | | | | | | | | |
| Fergus Falls 7/17-23 | | | BL | | | | | | | | | | | | 6 | | | | | |
| Worthington 7/17-23 | | | BL | | | | | | | | | | | | 52 | | | | | |
| MISSISSIPPI | | | | | | | | | | | | | | | | | | | |
| Stoneville 7/18-24 | 73-95 | Trace | 2BL | 15 | 4 | | | 4 | 2 | 24 | | | | | 4 | 6 | | | 61 | |

## LIGHT TRAP COLLECTIONS

| | Temperature °F. | Precipitation (inches) | Type of trap (BL - blacklight, I - incandescent, MV - mercury vapor, O - other) | Agrotis ipsilon (black cutworm) | Estigmene acrea (salt-marsh caterpillar) | Rhopo auxiliaris (army cutworm) | Faronta diffusa (wheat head armyworm) | Feltia subterranea (granulate cutworm) | Heliothis virescens (tobacco budworm) | H. zea (bollworm, corn earworm, tomato fruitworm) | Laspeyresia pomonella (codling moth) | Loxostege commixtalis (alfalfa webworm) | Loxostege rantalis (garden webworm) | Loxostege sticticalis (beet webworm) | Mamestra configurata (Bertha armyworm) | Mamestra picta (tobacco hornworm) | Ostrinia nubilalis (European corn borer) | Peridroma saucia (variegated cutworm) | Pseudaletia unipuncta (armyworm) | Spodoptera exigua (beet armyworm) | Spodoptera frugiperda (fall armyworm) | Spodoptera ornithogalli (yellowstriped armyworm) | Trichoplusia ni (cabbage looper) | Crops |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NEBRASKA | | | | | | | | | | | | | | | | | | | | | | | | |
| North Platte 7/18-24 | | | BL | | | | | | | | | | | | | | 1 | | 1 | | | | | |
| NEW JERSEY | | | | | | | | | | | | | | | | | | | | | | | | |
| Seabrook 7/16-22 | | | BL | 13 | | | | | | | 23 | | | | 1 | | 14 | | 23 | | | | | |
| Vineland 7/16-22 | | | BL | 17 | | | | | | | | | | | | | 8 | | 10 | | | | 1 | |
| OHIO | | | | | | | | | | | | | | | | | | | | | | | | |
| Wooster 7/19-25 | | | BL | 96 | | | | | | | | | | | | | 137 | 19 | 80 | | 2 | 11 | 1 | |
| OREGON | | | | | | | | | | | | | | | | | | | | | | | | |
| Mt. Angel 7/17-23 | | | BL | | | | | | | | | | | | | | | 1 | | | | | | |
| PENNSYLVANIA (Districts) | | | | | | | | | | | | | | | | | | | | | | | | |
| Central 7/18-24 | | | 14BL | 35 | | | | | | 2 | | | | | | | 25 | | 96 | | | | | |
| South East 7/18-24 | | | 7BL | 28 | 1 | | | | | | | | | | | | 1 | | 152 | | | | | |
| SOUTH DAKOTA | | | | | | | | | | | | | | | | | | | | | | | | |
| Brookings 7/16-23 | | | BL | 19 | | | 37 | | | | | | | | | | 15 | 173 | 38 | | | | 4 | |
| TENNESSEE (County) | | | | | | | | | | | | | | | | | | | | | | | | |
| Henry 7/15-22 | | | BL | 6 | | | | | 3 | | | | | | 4 | | | 4 | 37 | | | 6 | | |
| VIRGINIA | | | | | | | | | | | | | | | | | | | | | | | | |
| Blacksburg 7/18-24 | | | BL | | | | | | | | | | | | 3 | 1 | 5 | 15 | | 14 | | | | |
| WEST VIRGINIA (Counties) | | | | | | | | | | | | | | | | | | | | | | | | |
| Kanawha 7/22 | | | BL | | 1 | | | | | | | | | | | | 1 | | | | | 20 | | |
| Randolph 7/21 | | | BL | 3 | | | | | | | | | | | 1 | | 3 | 17 | | | | 4 | 3 | |
| WISCONSIN | | | | | | | | | | | | | | | | | | | | | | | | |
| Lancaster 7/17-23 | | | BL | 4 | | | | | | | | | | | | | 22 | 14 | | | | | | |
| Mazomanie 7/17-23 | | | BL | 5 | | | | | | | | | | 1 | | | 1 | 3 | 17 | | | | | |

## WEATHER OF THE WEEK ENDING JULY 27

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Precipitation focused mainly on the southeastern third of the Nation. When violent storms lashed the central Plains and middle Mississippi Valley, Illinois received the heaviest blow. In the southern Plains, heavy rains and rising waters troubled Texas and Oklahoma. Across the Nation, temperatures were warm and rose above normal in the west-northwest and parts of the northern Plains. Cooler air, however, brought the mercury down in much of the Plains regions.

PRECIPITATION: After kicking up so many storms across the Nation last week, the weather settled down somewhat on Monday. As precipitation withdrew, sunny skies moved over much of the Great Lakes, Ohio Valley, Plateau, and Pacific coast regions. Conditions cleared along the Atlantic coast; drier air pushed the rains aside. Rainfall focused on areas from the northern Rockies through much of the Plains and into the lower Mississippi Valley. Early afternoon skies on Tuesday were sunny to partly cloudy over most of the country. Later in day, however, thundershowers highlighted by heavy rains developed from the south Atlantic coast into the lower Mississippi Valley and gulf coast. Across the Plains, showers also sprang up from the Dakotas into western Texas. The heaviest rains soaked Redland, Texas, with over 2 inches in only one hour and in Zachary, Louisiana, dumped 3 inches in one hour. Outside the thunderstorm areas, fair weather spread through the central United States to the Pacific coast and from the Ohio Valley and Great Lakes to the northern Atlantic coast. What started out as a quiet day Wednesday, grew violent by late afternoon when thunderstorms lashed the central Plains and middle Mississippi Valley. Illinois was the hardest hit. A tornado in Canton, Illinois, caused extensive damage and a number of injuries and not far away 85 m.p.h. winds slammed Peoria. Elsewhere, storms were numerous in the south Atlantic States but were more scattered toward the southern Plains. Meanwhile, the western and northeastern portions of the country basked under sunny skies. By late Thursday, widespread heavy thunderstorms had command of the southeastern third of the Nation. In this area, a cold front chased heavy thunderstorms from northeast New York to northern Oklahoma. Throughout the day storms continued in the Midwest. Reports from Canton, Illinois, listed 5 fatalities and 44 injuries from Wednesday's tornado. On the heels of warm humid air that prompted Chicago to issue a livestock weather safety alert, drier, cooler air edged towards the East and South. To the west, storms dotted the Rockies and much of Intermountain region following an overall trend of lighter, less general, rainfall. In parts of Texas, however, rains again poured up to 4 inches in one hour. Heavy rains and rising waters in the Gulf and Atlantic Coast States set the weather scene for Friday. Precipitation elsewhere played only a minor role as scattered thundershowers spread over the southern and central Plateau and into the Rockies. On Saturday, showers and thunderstorms extended from Oklahoma and Texas throughout the Gulf and into the Atlantic Coast States. Storm activity in the Southwest withdrew but locally heavy rains still aggravated already saturated portions of Texas.

The week ended much as it had begun as precipitation on Sunday was light and widely scattered. Showers and thunderstorms followed a path from Arkansas to the eastern Gulf and southern Atlantic Coast States. The South grew quieter as shower and storm activity from Georgia and Florida through the lower Mississippi Valley region and parts of Oklahoma and Texas became more scattered.

TEMPERATURE: Following a brief respite, warmer weather returned to most of the Nation on Monday as afternoon temperatures rose into the 80's and 90's even as far north as the central Plains. Highs in the 60's and 70's warmed the cooler mountain regions and a few of the 70's moved along the Pacific coast. "Hot" summed up the weather as middle-of-the-week temperatures over the Nation topped normal levels for this time of year. The eastern half of the Nation suffered not only from heat but also the humidity. Some cooler air spread into the northern Plains but elsewhere, in the Nation's midsection, warm conditions persisted. The mercury advanced steadily in the Southwest until Thursday's heat blistered parts of the Desert regions with highs that surpassed 110 degrees. In contrast, highs in only the 60's made it chilly for July in parts of the Great Lakes region. As skies cleared towards the end of the week, nighttime temperatures dipped into the 40's and 50's in portions of North Dakota, Wyoming, and Montana. Meanwhile, readings in the 70's prevailed throughout areas east of this cool air boundary. Sunny skies on Sunday produced warm weather in many parts of the Nation, particularly in the northern two-thirds of the Great Plains and the interior of the Pacific coast. Havre, Montana, noted for its cool temperature readings, scored a surprising 106 degrees.

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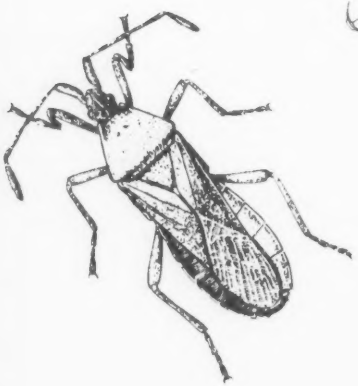
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